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1 RECORD OF ORAL HEARING
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3 UNITED STATES PATENT AND TRADEMARK OFFICE
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7 BEFORE THE BOARD OF PATENT APPEALS
8 AND INTERFERENCES
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11 *Ex parte* AKIO SUTO
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14 Appeal 2008-0872
15 Application 09/819,612
16 Technology Center 2100
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19 Oral Hearing Held: March 12, 2008
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22 Before HOWARD BLANKENSHIP, JEAN R. HOMERE, and
23 ST. JOHN COURTENAY, III, *Administrative Patent Judges*.
24

25 ON BEHALF OF THE APPELLANT:
26

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33 PROCEEDINGS

34 MS. HALL: This is Calendar Number 27. Appeal Number 2008-
35 0872. The attorney is Susan Pan.

36 MS. PAN: Good afternoon, Your Honors.

1 JUDGE BLANKENSHIP: Good afternoon. You have 20 minutes
2 and you can start whenever you like.

3 MS. PAN: Okay. Okay, I think the, the basic issues in this appeal
4 are fairly straightforward. So, I believe the presentation will be fairly brief.
5 The present invention basically relates to a system and a method that
6 includes multiple servers connected to multiple clients. And, if you refer to
7 our Figure 2, we have a figure -- let's see, let's see.

8 JUDGE HOMERE: Figure 1?

9 MS. PAN: I, I'm sorry, Figure 1 of the invention which I'm sorry I
10 don't have a cleaner version to show you. You have two servers, 12 and 14
11 which are in communication with each other. And, they're each attached to
12 plural clients, 20, 22, 24 and so on. And, these clients will perform different
13 processes that will cause an update of the data that is associated with the
14 data bases in each server, 12 and 14.

15 So, if one server memory, 142, becomes updates, it is important for
16 the memory data in the other server, 122, to become updates at some point
17 also. So, the -- in the application this is done through something called a
18 replication signal generator which is Items 152 and 132. So, when a client
19 updates a server data base, the replication trigger signal in that server
20 generates a replication signal and the update of the information is sent from
21 one server to the data base on the other server via the transfer units, 130 to
22 150.

23 So, both of these components of the generation of the trigger signal
24 and the updating based on that trigger signal are present in each of the
25 Independent Claims on appeal.

1 JUDGE COURTENAY: I'm sorry, that replication signal generator,
2 you say that it generates that trigger -- trigger?

3 MS. PAN: Yes.

4 JUDGE HOMERE: Does -- is that generated automatically? How
5 does that come about?

6 MS. PAN: I believe that it is done automatically based on the update
7 of the client.

8 JUDGE COURTENAY: Can you point us to a support in you
9 specification for that, please.

10 MS. PAN: Okay. I think by virtue of the fact that you have a trigger
11 generator that's part of the device component would suggest that it is done
12 automatically, but I will look for the support that you're asking for.

13 JUDGE HOMERE: Yeah, Page 11 of the specification describes
14 that, and it doesn't say anything about automatically, but it, it pretty much
15 paraphrases the language that you have in the claim.

16 MS. PAN: Um-hum.

17 JUDGE HOMERE: So, your argument starts out at Line 6 through
18 Line 14.

19 MS. PAN: Um-hum. Let's see. I think we had gone under the ==
20 that the trigger generation is provided by the particular element and in terms
21 of its automatic generation, I, I don't think it's something that we provided
22 explicitly in the claims, but by virtue of the fact that there is, as I mentioned,
23 an element generating it in response to a client.

24 JUDGE HOMERE: So, technically what, what you have is that at
25 some point upon updating the data base at some point that trigger, that

1 trigger can trigger itself is generated by some point. And, we don't know
2 exactly when, but somewhere down the line it's generated to inform the next
3 server to update the data base, right?

4 MS. PAN: Yes, that's correct.

5 JUDGE HOMERE: Okay.

6 MS. PAN: At least minimally that there's going to be at some future
7 point whether it's periodic --

8 JUDGE HOMERE: Okay.

9 MS. PAN: The periodicity actually comes from something other than
10 the replication trigger signal. So, I guess in terms of the allocation of the
11 timing, it could be at that trigger signal or it could be associated with a
12 different element.

13 JUDGE HOMERE: Okay.

14 MS. PAN: It's not something that, that was really drawn out of the
15 course of prosecution. But, in terms of the arguments that we were trying to
16 make before the Examiner, we were trying to -- the Examiners kind of
17 latched on to the language of a replication manager within the Mayhead
18 (phonetic sp.) device. And, Mayhead, I do believe I have the correct figures
19 for that one. So, I, I guess in somewhat similar measure we have plural
20 clients connected to a server 60.

21 JUDGE HOMERE: Okay.

22 MS. PAN: But, I guess I would emphasize here that the server 60, is
23 illustrated here in the singular. And, I think what they're trying to do in
24 Mayhead is to provide consistency that the different data bases in the context
25 of a single server environment, and --

1 JUDGE BLANKENSHIP: What figure shows the single server?

2 MS. PAN: Let's see. If you look at Figure 1 of Mayhead, that would
3 be one. And --

4 JUDGE BLANKENSHIP: Oh, it says file server system. It doesn't
5 say file server.

6 MS. PAN: And, then the other, the other figure of that one --

7 JUDGE HOMERE: Figure 2.

8 MS. PAN: Let me just figure -- the only other diagram --

9 JUDGE HOMERE: Figure 2 explains it in great detail.

10 MS. PAN: Okay, I see what happened. I'm sorry. I mislabeled the
11 reference on the invention. Okay, so, I guess the single server environment
12 comes from the fact that you have something called an intra-server
13 communication link. This Figure 2 is supposed to show the detail of the file
14 server 60, illustrated from the previous figure, figures. So, you have the
15 plural fiance (phonetic sp.) and the server 60 at the bottom. And, so this is a
16 detailed description of that figure -- that element 60. I think the thing that
17 we wanted to try to emphasize is that it is in the context of an intra server
18 communication between anything that appears in this Figure 2. So --

19 JUDGE BLANKENSHIP: In the reference like at the bottom of
20 Column 2, it says the file server systems locate over plurality of nodes --

21 MS. PAN: Correct.

22 JUDGE BLANKENSHIP: -- typically computers.

23 MS. PAN: Well, well each node is going to be a hardware
24 component, and that is what the replication manager is managing. It's
25 managing the addition and the taking away of hardware nodes onto the

1 server system. So, in that sense it's not data managing anything. It is just
2 keeping track of the fact that I have some many loggers, I have so many data
3 bases --

4 JUDGE BLANKENSHIP: Well, I was asking why you were calling
5 that Figure 1 drawing a single server.

6 MS. PAN: Well, if it's a multiple -- well I guess in our server, we
7 have certain requirements that are in our Claim 1. For example, we have a,
8 we have a server that is each of the servers includes the data base memory.
9 Each of the servers includes a replication trigger signal. Each of the servers
10 includes an update transfer unit.

11 So, if you consider each node in Figure 2 as being a piece of
12 computer, within that piece of computer you don't necessarily have
13 everything that's recited here in Claim 1. So, I think even though there are
14 multiple nodes that are in play, you don't necessarily have each server
15 having all the elements that we have in our Claim 1. So, it's just kind of an
16 artificiality that the Examiner is kind of latched upon.

17 JUDGE BLANKENSHIP: Well, again in Column 3, Lines 29 and
18 following it says that nodes are loosely coupled and they don't have to share
19 memory, so it seems that they're independent.

20 MS. PAN: Yes, but that's kind of an inherency issue at that point.
21 Whether it's there or not -- and that -- I'm sorry, you said Column 3, Lines
22 29 through --

23 JUDGE BLANKENSHIP: Like 35.

24 MS. PAN: Twenty-nine through 35. Yeah, each node is loosely
25 coupled. It has a local storage; redundant network connections for

1 connection to the clients, but -- okay, let's say you have a memory; you still
2 don't necessarily have the transfer units that we're claiming. And, you don't
3 still necessarily don't have the replication trigger generator that we're
4 claiming. And, I would emphasize that to the extent that anything can be
5 replicated. In Figure 2 it's going to be shown by a dotted line. That's pretty
6 clear in the text of Mayhead. The replication manager which the Examiner
7 has been relying upon as being the replication signal generator never shows
8 up in, in replicated format. That's why there's no dotted line relative to that
9 element 8, compared to all the other elements.

10 So, in that sense, the replication manager occurs in the singular and it
11 never occurs proximal to the servers.

12 JUDGE COURTENAY: But at Column 3, I went to the Line 22 it
13 says the replication manager is distributed; meaning it can have one of these
14 instances running on each node of the final server system.

15 MS. PAN: Yes, but I, I still don't think that the response to the basic
16 point that if you consider one node to be one hardware component, that, that
17 node may have, let's say, an instance of the replication manager, but it does
18 not necessarily include in the server context the remainder of what we're
19 claiming in Claim 1.

20 JUDGE COURTENAY: So, what, what you've conceded that the
21 replication manger does disclose your, your claimed replication trigger
22 generator?

23 MS. PAN: No, I, I don't think I would necessarily concede that
24 because of the management that's taking place in the replication manager.

1 JUDGE COURTENAY: Can, can you expand on that further,
2 please?

3 MS. PAN: Sure. We have a replication manager for based on an
4 update to a client. It's going to update via the second recited element; via
5 the updated information transfer unit an update of information to another
6 server. Now, what that replication manager is doing is saying okay I have
7 another logger being added to the system. So, it might update. Okay, I have
8 another logger or I might have another memory being added to the system
9 and it's going to track that. It's not tracking the data and updating another
10 server based on the addition of that element. Its self is just kind of seeing
11 what's going on in terms of the hardware components that are being added
12 or deleted. But, that's not necessarily data management; not in terms of
13 what's included in a server.

14 JUDGE COURTENAY: I'm looking again at Column 3, Line 24, it
15 says these instances inter-communicate to maintain coherence; referring to
16 the function of the replication manager.

17 MS. PAN: That would be correct. That would be the update of what
18 the hardware system looks like as opposed to the data within the server. I
19 think there is a lot of ambiguity relative to the --

20 JUDGE COURTENAY: I read that as maintaining date coherence.
21 You, you read it differently.

22 MS. PAN: Let's see. Let me read it a little bit more slowly.

23 JUDGE COURTENAY: We have a distributed replication manager
24 disclosed. It has one or more instances running on each node of the file

1 server system, and these instances inter-communicate to maintain coherence;
2 meaning coherence are replication of the data as, as I read it.

3 MS. PAN: Or, replication of what the hardware looks like. I think
4 that it's still not clear as to whether the coherency means that the other data,
5 other nodes knows that there are three loggers on the system; not four. That
6 is a form of coherency in and of itself apart from the data that's within the
7 server.

8 JUDGE COURTENAY: One further question. Could you explain
9 what you mean by the words, based on, in you claim? You recited a
10 replication trigger generator for generating a replication trigger based on the
11 updating of said data base. What exactly do you mean by the words, based
12 on?

13 MS. PAN: I'm sorry. Which, which element?

14 JUDGE COURTENAY: I'm looking at Claim 1.

15 MS. PAN: Is that for the, the --

16 JUDGE COURTENAY: Replication trigger generator --

17 MS. PAN: Okay.

18 JUDGE COURTENAY: -- for generating a replication trigger based
19 on the updating of the data base.

20 MS. PAN: Let's see. I believe what that refers to is -- let me go
21 back --

22 JUDGE COURTENAY: In your specification you also use the words
23 based on.

24 MS. PAN: I guess in terms of the based on, like I had mentioned
25 before, we have the multiple clients, and then that's going to change the data

1 in one of the associated data bases. And, then because that data base
2 becomes updated, that's going to cause the replication trigger signal to do
3 what it needs to do to maintain a data consistency in the data base of the
4 other server. So, when we say based on, we say based on update of the data
5 base meaning, I guess, the memory. Because, when you look at the claim as
6 a whole, I believe, we have a data base memory. That's the first recited
7 element in each server. And, then we have updating of said data base. So, I
8 think that's going to refer back to the data base memory. So, I think that
9 data base memory becomes updated based on activity by the client, and
10 which in turn that updates is going to cause the trigger signal to say, oh, I
11 need to start the trigger process so the data in the other server can be
12 consistent with the data that was just updated by the client process.

13 JUDGE COURTENAY: Right, but you don't, you don't claim a, a
14 replication trigger caused by the updated --

15 MS. PAN: Well --

16 JUDGE COURTENAY: You claim, you more broadly claim a
17 replication trigger based on the updating of the data base.

18 MS. PAN: I agree that caused by might perhaps be a little bit broader
19 in its language, but I think even with the broader recitation the inter-
20 relationships between the client, the data base, the replication trigger and the
21 update transfer unit is just not cohesively taught in the art. I don't even
22 think if you cobble it together in the primary reference that it's taught in the
23 art; just because of the ambiguities that you very accurately raised. But, I
24 still think even with those teachings in Column 3, it's just a question of,
25 yeah, there's some management going on. It's clear that there's

1 management going on both in the hardware context and to some degree in
2 the data context, but this replication manager that's been referred to
3 repeatedly as our replication trigger signal just does not necessarily manage
4 the server data base memories. That is what is being claimed.

5 JUDGE HOMERE: Let's turn to Column 5 for a second. That
6 provides a discussion of Patent 51946.

7 MS. PAN: Okay.

8 JUDGE HOMERE: Yeah, there's a discussion in here about the
9 primary file and the back-up file.

10 MS. PAN: Yes.

11 JUDGE HOMERE: And, (indiscernible) do you agree with that the
12 two files being discussed here. (Indiscernible) they are discussing data,
13 right? Data being kept --

14 MS. PAN: Yes.

15 JUDGE HOMERE: -- in the files, right?

16 MS. PAN: Yes, I believe that that would be the case.

17 JUDGE HOMERE: Okay. So, there's a portion that says that the
18 back-up is a replica of the primary, of the primary file, right?

19 MS. PAN: I'm sorry, which, which portion?

20 JUDGE HOMERE: Column 5, Line 46 it says that the file store
21 back-up is a replica of the primary, for the primary file looking at different
22 nodes.

23 MS. PAN: Okay, yes, I see that now.

24 JUDGE HOMERE: Okay, and then --

25 MS. PAN: Yes, uh-huh.

1 JUDGE HOMERE: -- and then we go down somewhere around Line
2 57; the primary and back-up are generally located in different nodes.

3 MS. PAN: Correct.

4 JUDGE HOMERE: Change of the primary will cause a movement of
5 the prior location from one to another one.

6 MS. PAN: Yes, that's correct.

7 JUDGE HOMERE: Okay.

8 MS. PAN: But, there's more than one way to skin a cat. So, there's
9 more than one way to transfer data, and I, I would maintain that --

10 JUDGE HOMERE: Well, you cannot say that the change to the
11 primary node to the data --

12 MS. PAN: Um-hum.

13 JUDGE HOMERE: -- in the primary file that will also that will cause
14 that data to be transferred over to the secondary motor.

15 MS. PAN: It could be, but it's not going to be based on a trigger
16 signal necessarily.

17 JUDGE HOMERE: What is a trigger signal? A trigger signal is
18 nothing but a command to inform the second data base that while the
19 primary data base is being updated, you know, therefore, we need to make a
20 consistency.

21 MS. PAN: Yeah, but I guess the other, I guess the other part of
22 related issue with this is getting back to the fact that the, the file server
23 system is a node, and it is calling all these additional element's nodes also.
24 And, so whether that one node where that back-up system occurs is only

1 going to include the affiliated transfer unit, for example, or the affiliated
2 archive memory, or the affiliated update information --

3 JUDGE HOMERE: Let's stick to one point at a time because I think
4 that we go no other place here.

5 MS. PAN: Um-hum.

6 JUDGE HOMERE: What I just pointed you to, do you agree that this
7 portion here suggests the more you look at Line 56 --

8 MS. PAN: Um-hum.

9 JUDGE HOMERE: -- it suggests that there's any update to the
10 primary file the update is communicated to the secondary file or at least
11 causes the secondary file, the back-up file, to transfer the data.

12 MS. PAN: Yes, I think eventually the back-up will look like the
13 primary.

14 JUDGE HOMERE: Oh, so therefore you would agree that upon
15 updating the primary file, at least you have something that indicates that
16 communicates to the secondary file that wow, you know, the primary file
17 isn't updated, then we need to update as well.

18 MS. PAN: No, I don't think that's necessarily true. I think what
19 might possibly happen is the back-up actually gets updated first, and there's
20 a place holder in a different node that says I'm not going to update yet
21 because if I don't successfully update I'm still going to have a data problem.

22 JUDGE HOMERE: But, the change of the primary -- so in other
23 words, you, you update the primary so change of the primary will cause
24 movement of the primary location from one node to the other node. So, in

1 other words, you'll change the primary. So, you altered the primary node;
2 data in the primary file, and that caused the secondary back-up node to a --

3 MS. PAN: That would be a very logical reading of it. I agree, but
4 there's some disclosure later in the case that tells us what happens when data
5 is written in the nodes. I believe it's at Column -- I have to refer to my
6 notes. I believe it's at Column 12; that sequence of lines where they're
7 discussing the client right sequences. And, from what I understand of it,
8 there's a log that's created when one of the data bases is about to change.
9 So, that log is kind of like the place holder I was talking about. It's going to
10 make sure that the data can be transferred first to the second node and once
11 the data is successfully transferred from that place holder to the second node,
12 it's only then that the second node says, okay I changed myself. And, then
13 the data becomes updated into the node were -- the node, the first node so to
14 speak. So, it's kind of like flip-flopped.

15 JUDGE HOMERE: But for what purpose? It doesn't really matter
16 because all same require that the secondary -- the back-up file is updated
17 based or is replicated based on an update on the primary file. So, when the
18 update, when the application takes place does not matter. Right? Because,
19 all that, that the reference has to teach is that the secondary -- the replication
20 on the back-up, on the secondary file has to occur based on an update that
21 occurred in the primary file.

22 MS. PAN: I --

23 JUDGE HOMERE: Because as we established when at the outset, it
24 doesn't matter when the, when the replication takes place.

1 MS. PAN: Well, I guess just going back to the, the portion that
2 you're citing. There is a certain dynamic that's not a static type system
3 where one node is always going to be the lead node. I think within the
4 portion that you're citing that there is going to be a change of what they call
5 the primary node. And, I, I know that it, it -- so you say that the back-up is
6 always going to replicate the primary, but those, but those relationships are
7 going to change based on something they call a re-election. And, when they
8 say generally cause a movement of the primary location, I don't think that's
9 necessarily referring to the movement of data. I think that's necessarily that
10 could equally apply to designation of what is a primary, and, then that -- I
11 think that creates some ambiguity as to whether the claim that we have is
12 really taught in the art.

13 JUDGE COURTENAY: I'd like to return to this idea of this
14 replication manager it has instances that are distributive. They inter-
15 communicate to maintain coherence. If for purposes of argument, we
16 construe that coherence that's disclosed here is data coherent.

17 MS. PAN: Um-hum.

18 JUDGE COURTENAY: Wouldn't you agree that if you change the
19 data in one node that to maintain this coherence, this function being
20 performed by the replication manager, you would have to in response
21 change the data, replicate the data in another node to maintain the coherence.
22 Would you disagree with that?

23 MS. PAN: Well, I understand that the end goal is obviously to get
24 the data to, to agree. So, yes, in that context, I would agree. But, it's how
25 you get from your beginning point to your end point. Our claim doesn't just

1 say, make all the data consistent. And, I guess that's my point that I've been
2 trying to make throughout the course of prosecution.

3 JUDGE COURTENAY: But wouldn't, as disclosed here in the
4 reference a change in the data at one node violate the coherence of the data
5 of all the nodes. And, it would have to initiate this replication to maintain
6 coherency that being the purpose of the replication being addressed as
7 disclosed in the reference.

8 MS. PAN: Well, to maintain the coherence, sure. Ultimately the
9 data in all the data across the systems, assuming that we even have multiple
10 systems here, does need to be consistent with each other; so, yes. But, I
11 believe that the Mayhead reference contemplates certain ways in order to put
12 that into effect. And, the way it puts that into effect through a place holder
13 and transferring something that's not the primary first, and then going back
14 and updating the primary, for example. It's just not a --

15 JUDGE BLANKENSHIP: Did I understand --

16 MS. PAN: -- not what --

17 JUDGE BLANKENSHIP: Excuse me. Did I understand you to say
18 that in a reference the replication manager doesn't manage data base
19 memory?

20 MS. PAN: I believe it does not, but for the sake of Judge
21 Courtenay's argument, we did kind of make that assumption that coherence
22 relates to the data --

23 JUDGE BLANKENSHIP: Right.

24 MS. PAN: -- but, I would maintain that it relates to the hardware.

1 JUDGE BLANKENSHIP: We've kept you overtime. Would you
2 like a minute to sum up?

3 MS. PAN: Yes, I would. Thank you, very much. So that's basically
4 -- we discussed a lot of things that were raised and they're all very good
5 points, but we just feel like there's some ambiguities in terms of what these
6 operators in the Mayhead reference are acting upon; whether it's hardware
7 or the data, and also the method that by which the updates occur. And, I did
8 want to bring up a second argument relative to Claim 19 which kind of
9 dictates a little bit more the sequence in which things have to occur.

10 Our Claim 19 describes the processing system based on Claim 1
11 where the updating of the data base occurs prior to generating the replication
12 trigger. And, this kind of goes back to the issue of having a place holder
13 first. So, it's not going to update that data base. It's going to stay here until
14 it makes sure that the other side updates first. So, in that sense, if there's any
15 trigger signal being generated, it's not being generated prior to the update of
16 that data base. It's going to be updated after the second data base gets
17 updated and then it's going to go back and then that first data base will
18 become updated.

19 So -- and that is the discussion at Column 12, the enumerated portions
20 of that section. As for the other claims, I would say Claim 7 is fairly
21 analogous to the recitations of Claim 1, and all the remaining claims are
22 submitted to be patentable based on their dependency. And, that is all I had.
23 I would -- if you had any other questions, of course, I would be happy to try
24 to answer them.

25 JUDGE BLANKENSHIP: No, thank you.

1 MS. PAN: Thank you, very much.

2 MR. WILLIAMS: Could you spell your name for the record?

3 MS. PAN: Sure. S,U,S,A,N,P,A,N.

4 MR. WILLIAMS: Thank you. Should I go off the record?

5 JUDGE BLANKENSHIP: Yes, that's fine.

6 (Whereupon, the proceedings concluded.)

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